STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

P.O. BOX 25201 RALEIGH, N.C. 27611-5201

E. NORRIS TOLSON
SECRETARY

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: W. J. Rogers, P.E.
State Bridge Design Engineer

DATE: November 4, 1998

SUBJECT: COMPUTED FOUNDATION LOAD

There has been inconsistent application of the required General Drawing note pertaining to computed foundation loads. In order to clarify this issue, the General Drawing notes have been revised as outlined below.

The allowable load from the Foundation Recommendation should be reflected in the following three General Drawing notes:

For driven pile foundations,
Piles for End Bent No.____(and or Bent No._____) shall be driven to a minimum bearing capacity of _____KN (tons) each.

For spread footing foundations,
The required bearing capacity of the spread footings at Bent No. ____ is _____ kPa (tons/ft^2).

For drilled pier foundations,
Drilled piers for Bent No. ____ have been designed for an allowable load of _____kN (tons) each.

For drilled pier foundations, the bearing capacity of the pier is comprised of tip bearing, skin friction, or a combination thereof. The Soils and Foundation Section will present the tip bearing capactiy in the Commments and Notes section of the Foundation Recommendations. If the tip bearing capacity is not apparent, contact the Soils and Foundation Section for the breakdown of the pier capacity.

When the pier capacity is based solely on skin friction, the required tip bearing capacity will be zero, and the following note should be placed on the General Drawing.
The drilled piers at Bent No. _____ have been designed for skin friction only. No tip bearing capacity is required.

When the pier capacity is based solely on tip bearing, the following note should be placed on the General Drawing.
The drilled piers at Bent No. _____ have been designed for tip bearing only. The required tip bearing capacity is _____kPa (ton/ft^2).

When the pier capacity relies on both skin friction and tip bearing, the following note should be placed on the General Drawing:
The drilled piers at Bent No. _____ have been designed for both skin friction and tip bearing. The required tip bearing capacity is _____kPa (tons/ft^2).

This policy is effective with the May, 1999 letting. Additionally, coordination with the Soils and Foundation Section will be required to ensure that all shelf plans are revised accordingly. The Design Manual will be revised at a later date.

WJR/LES/ts

SD

Back to Structures Main Page
Last Updated: 11/18/98 by:Steven Rackley
E-mail Structure Design